

## Crispr finally gets its CAR into the clinic



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Over 18 months after [first touting its allogeneic CAR-T approach](#), Crispr Therapeutics has started a [clinical trial](#) of its wholly owned candidate CTX110. The company joins Allogene, Cellectis, Celyad and Poseida in the off-the-shelf CAR-T therapy race, but Crispr believes its project to have an advantage over other assets. Crucially, according to the company, Crispr/Cas9 editing allows insertion of the CAR construct into a precise location. In the same step, this could disrupt endogenous T-cell receptors, preventing graft-versus-host disease, and also hit the cell's major histocompatibility complex to prevent the CAR-T cells being destroyed by an immune response. CTX110, previously known as CTX101, is not the first Crispr/Cas9 engineered CAR-T contender to enter the clinic – that honour went to Tmunity's autologous NY-ESO-directed T cells. There are a couple of other clinical-stage Crispr/Cas9-based projects, including Allergan and Editas's AGN-151587, which began human trials last week in Leber congenital amaurosis 10, an inherited form of blindness. Editas has taken even longer to get its candidate into the clinic; having [initially hoped to file an IND by the end of 2017](#). Editas also has an interest in CAR-T via a 2015 deal with Juno – now Celgene – but things have gone quiet here.

### Western trials of Crispr approaches

Project	Companies	Description	Indication(s)	Trial details
NY-ESO-1 redirected T cells	Tmunity	Autologous, <i>ex vivo</i> edited NY-ESO-targeting CAR-T therapy	Multiple myeloma, sarcoma, melanoma	<a href="#">NCT03399448</a>
CTX001	Crispr Therapeutics/Vertex	Autologous, <i>ex vivo</i> edited haematopoietic stem cell therapy	Beta thalassaemia, sickle cell disease	<a href="#">NCT03655678</a> , <a href="#">NCT03745287</a>
AGN-151587/EDIT-101	Allergan/Editas	<i>In vivo</i> Crispr-based therapy	Leber congenital amaurosis 10	Brilliance, <a href="#">NCT03872479</a>
CTX110	Crispr Therapeutics	Allogeneic, <i>ex vivo</i> edited CD19-targeting CAR-T therapy	B-cell malignancies	<a href="#">NCT04035434</a>

Source: [clinicaltrials.gov](#) & company releases.